



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Mingchih M. Tseng et al.      Art Unit : 1614  
Serial No. : 10/663,352      Examiner : Frederick Krass  
Filed : September 15, 2003  
Title : COLOR CHANGING MATRIX AS WEAR INDICATOR

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

Applicants are appealing the final rejection of claims 45-52 in the office action dated June 16, 2005. Applicants request that the rejection be reversed. A notice of appeal was filed on November 2, 2005.

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Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 2 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**(1) Real Party in Interest**

The real party in interest is The Gillette Company, Prudential Tower Building, Boston, Massachusetts. The Gillette Company recently was acquired by The Procter & Gamble Company.

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 3 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**(2) Related Appeals and Interferences**

There are no related appeals or interferences.

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 4 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**(3) Status of Claims**

Claims 45-52 are pending and stand rejected under 35 U.S.C. § 102(b) in view of Barclay et al., U.S. Pat. 5,021,053 ("Barclay").

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 5 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**(4) Status of Amendments**

All amendments have been entered.

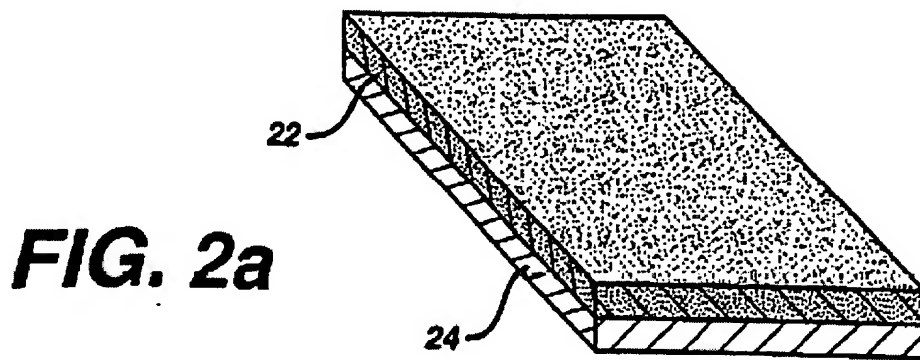
**(5) Summary of Claimed Subject Matter**

This appeal will focus on independent claim 45, which reads as follows:

45. A color-changing matrix comprising a layer including a mixture of a water-insoluble polymer, a water-soluble polymer, and a water-leachable colorant that leaches from the matrix when the matrix is exposed to water to provide a change in color.

Claim 45 thus is directed to a “color-changing matrix” including “a layer” comprising a “mixture” of three ingredients -- a water-insoluble polymer, a water-soluble polymer, and a water-leachable colorant.

An embodiment of claim 45 is described on page 18 of the specification and illustrated in Fig. 2a:



Referring to Fig. 2a, a color changing matrix includes an outer layer 22 and an inner layer 24. Outer layer 22 is a mixture that can include a mixture of water-soluble polymer such as polyethylene oxide, a water-leachable colorant, and a water-insoluble resin. See page 18, lines 12-16. Claim 45 covers this embodiment, and also is sufficiently broad to cover embodiments, for example, lacking an inner layer 24.

Claims 46-52 depend directly or indirectly from claim 45.

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 7 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**(6) Grounds of Rejection**

Applicants request reversal of the 35 U.S.C. § 102(b) rejection.

**(7) Argument**

Applicants and the Examiner disagree regarding the meaning of the terms “layer” and “mixture”. The Examiner has given the terms unreasonably broad interpretations that are inconsistent with specification and, in the case of “layer”, contradicts an express definition provided in the specification. Applicants will explain why the Examiner's interpretations are incorrect, and then will turn to Barclay.

**(a) Interpretation of “Layer”  
and “Mixture”**

Applicants expressly defined “layer” as meaning a section of the template that has a particular composition. Specifically, applicants stated (page 4, lines 27-30, in the context of a two layer template):

In other preferred embodiments, the matrix includes two layers, joined together. By “two layers”, it is meant that one section of the template has a different composition than a second section.

Applicants use “layer” consistent with this meaning throughout the specification. For example, when describing a two layer, color-changing template, applicants referred to Fig. 2a (shown above) and referred to outer “layer” 22 and inner “layer” 24. The two layers differ in composition. See page 18, lines 10-30. Thus, “layer” in claim 45 means a section having a particular composition.

The Examiner, when comparing Barclay to claim 45, interpreted “layer” to encompass adjoining outer and inner sections having different compositions. That interpretation is incorrect.

The term “mixture” merely means components that are mixed together. This meaning is consistent with the specification, where applicants discuss mixing the components of a layer to provide a blend. See page 12, lines 1-2 (components are “mixed in a blender”) and page 13, line 3 (“blend of materials”). This meaning also is consistent with the applicable definition from the list of dictionary definitions (from Webster's Ninth New Collegiate Dictionary) provided by the Examiner:

**1(a):** the act, the process, or an instance of mixing **(b1):** the state of being mixed  
**(b2):** the relative proportions of constituents; specif: the proportion of fuel to air  
produced in a carburetor **2:** a product of mixing: COMBINATION as **a:** a  
portion of matter consisting of two or more components in varying proportions



that retain their own properties **b**: a fabric woven of variously colored threads **c**.  
a combination of several different kinds. (Emphasis original).

Although definition 2(a) is the definition that is consistent with the specification, the Examiner instead latched onto definition 2(b) ("a fabric woven of various colored threads"). See page 3 of the office action dated June 16, 2005 (quoting dictionary and commenting that a "mixture can contain separate components in separate physical locations, as in a fabric made of various colored threads"). The Examiner was wrong to do this. The present application does not relate to "fabrics" or "threads" but rather relates to a chemical composition. Thus, "mixture" in claim 45 means the components of the layer are mixed together.

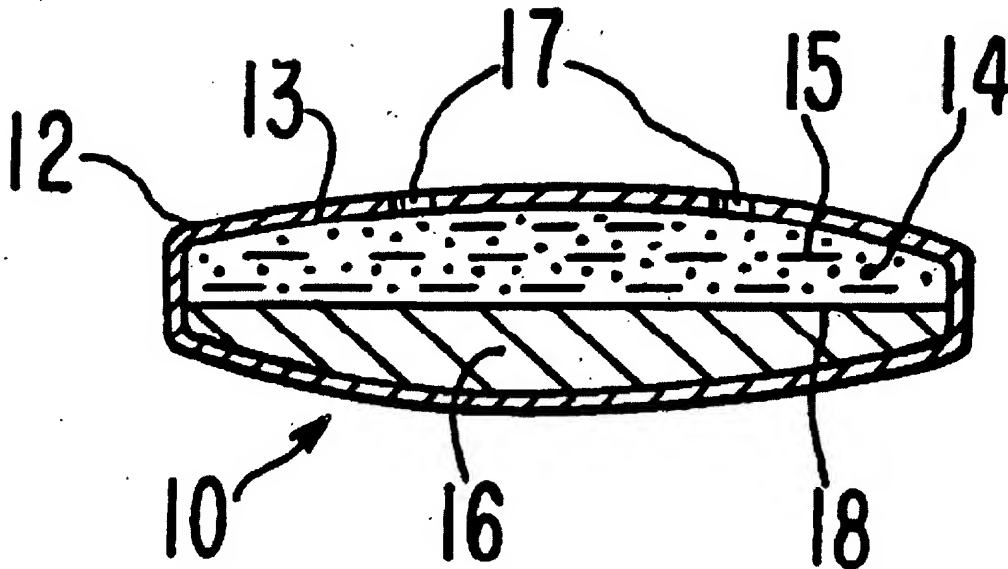
Applicants understand that claims should be given "their broadest reasonable interpretation consistent with the specification" during prosecution. See In re Hyatt, 211 F.3d 1367, 1372 (Fed. Cir. 2000). But the Court of Appeals for the Federal Circuit has repeatedly emphasized that this doctrine does not relieve the Examiner from the responsibility of interpreting claim language in light of the specification from the standpoint of a person of ordinary skill in the art. See, for example, Rowe v. Dror, 112 F.3d 473, 479 (Fed. Cir. 1997), where the Court reasoned:

During the patent examination process, claims receive their broadest reasonable meaning.... However, this does not relieve the PTO of its essential task of examining the entire patent disclosure to discuss the meaning of claim words and phrases.

See also In re Bond, 910 F.2d 831, 833 (Fed. Cir. 1999) (during prosecution "claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art") (emphasis in original).

**(b) Barclay Does Not Anticipate  
Claims 45-52**

Barclay describes an "oral osmatic device" 10:



Device 10 includes an outer wall 12 that can include a water-insoluble polymer such as polystyrene. See col. 9, lines 27-29, 51, and 52. Wall 12 includes passageways 17, through which a drug can be released. See col. 6, lines 62-64. Device 10 further includes a “drug layer” 14 that can include a water-insoluble polymer such as polyethylene oxide (see col. 11, lines 51-63) and the drug (see col. 8, lines 58-61). The drug can be water-soluble and colored, and thus according to the Examiner is a water-leachable colorant.

35 U.S.C. § 102(b), provides in pertinent part:

A person shall be entitled to a patent unless--

\* \* \*

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States....

A claim is invalid for lack of novelty under 35 U.S.C. § 102(b) if a prior art reference expressly or inherently discloses a product including every limitation required by the claim. See Schering Corp. v. Geneva Pharmaceuticals, 339 F.3d 1373, 1379 (Fed. Cir. 2003).

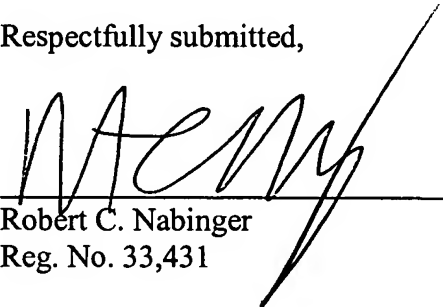
The 35 U.S.C. § 102(b) rejection of claims 45-52 should be reversed because Barclay does not disclose a “layer” including a “mixture” of a water-insoluble polymer, a water-soluble

polymer, and a water-leachable colorant, as required by the claims. Drug layer 14 in device 10 can include a water-soluble polymer and a water-soluble, colored drug, but does not include a water-insoluble polymer. Instead, a separate layer -- wall 12 -- can include a water-insoluble polymer. Thus, device 10 does not include a layer including the three components required by claim 45. Moreover, device 10 does not include a "mixture" of the three components because the water-insoluble polymer in wall 12 is not mixed with the water-soluble polymer and drug in drug layer 14.

Since Barclay does not disclose a matrix including all the requirements of claims 45-52, the claims are novel in view of Barclay. As a result, applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claim 45-52 be reversed.

The brief fee of \$500 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,



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Date: January 24, 2006

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### **Appendix of Claims**

45. A color-changing matrix comprising a layer including a mixture of a water-insoluble polymer, a water-soluble polymer, and a water-leachable colorant that leaches from the matrix when the matrix is exposed to water to provide a change in color.

46. The color-changing matrix of claim 45 wherein the water-soluble polymer comprises polyethylene oxide.

47. The color-changing matrix of claim 46 wherein said water-insoluble polymer is selected from the group consisting of polystyrenes, polyurethanes, ethylene vinyl acetate polymers, polyethylenes, styrene/rubber polymers, and ethylene/propylene polymers.

48. The color-changing matrix of claim 45, 46 or 47 wherein the layer additionally comprising an antimicrobial agent.

49. The color-changing matrix of claim 48 adapted to leach colorant corresponding with the depletion of said antimicrobial agent.

50. A method of indicating wear comprising providing a color-changing matrix according to claim 45, and repeatedly contacting said matrix with water to cause said matrix to change color.

51. The color-changing matrix of claim 45 wherein the layer includes over 50% of the water-insoluble polymer by weight.

52. The color-changing matrix of claim 45 wherein the water-insoluble polymer comprises a polystyrene.

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 13 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**Evidence Appendix**

None.

Applicant : Mingchih M. Tseng et al.  
Serial No. : 10/663,352  
Filed : September 15, 2003  
Page : 14 of 14

Attorney's Docket No.: 00216-091011 / OB-37H

**Related Proceedings Appendix**

None.